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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,859	12/21/2001	Thomas M. Worth	DPL-020	4031

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EXAMINER

HAM, SEUNGSOOK

ART UNIT PAPER NUMBER

2817

DATE MAILED: 05/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/036,859	WORTH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Seungsook Ham	2817	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 March 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8,9 and 22 is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                              | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____.                                   |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of Group 1 in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-7, 10, 14-16, and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Iams (US '367).

Iams (figs. 1-5) discloses a mechanically stable substrate 11 that defines the shape of a surface for reflecting microwave radiation (e.g., radio wave); a metal fitting 10, 12, 13 providing the surface that reflects microwave radiation, wherein the metal fitting has a thickness (0.005", see col. 3, lines 64-66) that is insufficient for independent mechanical stability (i.e., less than 500um).

Regarding claims 3, 6, and 7, Iams shows the thickness of the metal fitting 12, 13 is 0.005 inch (~127um) or 0.002 inch (~50.8um).

Regarding claims 4 and 5, Iams also shows a surface of the metal fitting 10 defines a microwave reflector and the substrate 11 comprises an insulator (e.g., glass, ceramics, col. 3, lines 5-10).

Regarding claims 10 and 14-16, Iams shows the metal fitting 10 can be brazed joint (e.g., soldered), bonded to the substrate by an interference fit ("punched into a cup-shaped piece which is attached to the central tube"), has a machined surface and completely shields the substrate from exposure to the microwave radiation (see fig. 3, the inner surface of the substrate 11 is completely shielded by the metal fitting 10 (see col. 4, lines 15-25).

Regarding claims 19-21, Iams also discloses the metal fitting has a ring shape having inner and outer diameters 10, 12. Regarding the phrase, "machined to match" is a method step, thus it cannot be given any patentable weight. Even if such language is considered, it is inherent from the device of Iams (e.g., the inner and outer diameters are attached to the substrate 11).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iams (US '367).

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Regarding claim 2, Iams teaches that the device can be arranged to form a resonant circuit (col. 1, line 55). Thus, it would have been obvious to define the surface of the substrate as at least a portion of a resonant cavity.

Regarding claims 11-13, using different materials for the metal fitting is considered as obvious design choices since such metals are well known in the art and give the high reflection.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iams (US '367) in view of Komachi (US '540).

Iams is applied as above. Iams does not show an adhesive layer between the substrate and metal fitting. However, using an adhesive layer to bond between two layers is well known in the art. Komachi teaches such adhesive layer (col. 3, lines 41-48). Thus, it would have been obvious to one of ordinary skill in the art to provide an adhesive layer between the substrate and the metal fitting for bonding since such technique is well known in the art as taught by Komachi. The specific thickness range is considered as obvious design modification since the bond layer should have a sufficient thickness to bond the two layers.

#### ***Allowable Subject Matter***

Claims 8, 9 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (703) 308-4090. The examiner can normally be reached on Monday - Thursday from 8:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (703)308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.



Seungsook Ham  
Primary Examiner  
Art Unit 2817

sh  
April 28, 2003